

FIGURE 1

Staphylothermus marinus - F1-12LC

1	ATG	TCT	TTA	AAC	AAG	CAC	TCT	TGG	ATG	GAT	ATG	ATA	ATA	TTT	ATT	CTC	AGC	TTT	TCT	TTC	60
1	Met	Ser	Leu	Asn	Lys	His	Ser	Trp	Met	Asp	Met	Ile	Ile	Phe	Ile	Leu	Ser	Phe	Ser	Phe	20
61	CCA	TTA	ACA	ATG	ATC	GCA	TTA	GCT	ATC	TCT	ATG	TCG	TCA	TGG	TTT	AAT	ATA	TGG	AAT	AAT	120
21	Pro	Leu	Thr	Met	Ile	Ala	Leu	Ala	Ile	Ser	Met	Ser	Ser	Trp	Phe	Asn	Ile	Trp	Asn	Asn	40
121	GCA	TTA	AGC	GAT	CTA	GGA	CAT	GCT	GTT	AAA	AGC	AGT	GTT	GCT	CCA	ATA	TTC	AAT	CTA	GGT	180
41	Ala	Leu	Ser	Asp	Leu	Gly	His	Ala	Val	Lys	Ser	Ser	Val	Ala	Pro	Ile	Phe	Asn	Leu	Gly	60
181	CTT	GCA	ATT	GGT	GGG	ATA	CTA	ATT	GTT	ATA	GTT	GGT	TTA	AGA	AAT	CTT	TAT	TCG	TGG	AGT	240
61	Leu	Ala	Ile	Gly	Gly	Ile	Leu	Ile	Val	Ile	Val	Gly	Leu	Arg	Asn	Leu	Tyr	Ser	Trp	Ser	80
241	AGA	GTT	AAA	GGA	TCT	TTA	ATC	ATA	TCC	ATG	GGT	GTA	TTT	CTT	AAC	TTA	ATA	GGG	GTT	TTC	300
81	Arg	Val	Lys	Gly	Ser	Leu	Ile	Ile	Ser	Met	Gly	Val	Phe	Leu	Asn	Leu	Ile	Gly	Val	Phe	100
301	GAC	GAA	GTA	TAT	GGT	TGG	ATA	CAT	TTC	CTA	GTC	TCA	GTA	TTG	TTT	TTC	TTA	TCA	ATA	ATA	360
101	Asp	Glu	Val	Tyr	Gly	Trp	Ile	His	Phe	Leu	Val	Ser	Val	Leu	Phe	Phe	Leu	Ser	Ile	Ile	120
361	GCA	TAT	TTC	ATA	GCT	ATA	TCA	ATA	CTT	GAC	AAA	TCA	TGG	ATA	GCT	GTT	CTA	CTA	ATA	ATA	420
121	Ala	Tyr	Phe	Ile	Ala	Ile	Ser	Ile	Leu	Asp	Lys	Ser	Trp	Ile	Ala	Val	Leu	Leu	Ile	Ile	140
421	GGT	CAT	ATT	GCA	ATG	TGG	TAT	CTA	CAC	TTT	GCT	TCA	GAG	ATT	CCG	AGA	GGT	GCG	GCT	ATT	480
141	Gly	His	Ile	Ala	Met	Trp	Tyr	Leu	His	Phe	Ala	Ser	Glu	Ile	Pro	Arg	Gly	Ala	Ala	Ile	160
481	CCC	GAG	TTA	TTA	GCG	GTA	TTC	TCG	TTT	TTA	CCA	TTC	TAT	ATA	AGA	GAC	TAT	TTT	AAA	TCA	540
161	Pro	Glu	Leu	Leu	Ala	Val	Phe	Ser	Phe	Leu	Pro	Phe	Tyr	Ile	Arg	Asp	Tyr	Phe	Lys	Ser	180
541	TAC	ACT	AAA	CGA	TAG																555
181	Tyr	Thr	Lys	Arg	End																185

FIGURE 2

Pyrodictium - TAG11-17LC

1	ATG	AAA	CTC	CTT	GAG	CCC	ACA	AAT	ACC	TCC	TAC	ACG	CTG	TTA	CAG	GAT	TTA	GCA	TTG	CAT	60
1	Met	Lys	Leu	Leu	Glu	Pro	Thr	Asn	Thr	Ser	Tyr	Thr	Leu	Leu	Gln	Asp	Leu	Ala	Leu	His	20
61	TTT	GCA	TTT	TAC	TGG	TTT	CTG	GCC	GTG	TAT	ACG	TGG	TTA	CCC	GGT	GTC	CTA	GTC	CGG	GGC	120
21	Phe	Ala	Phe	Tyr	Trp	Phe	Leu	Ala	Val	Tyr	Thr	Trp	Leu	Pro	Gly	Val	Leu	Val	Arg	Gly	40
121	GTA	GCT	GTG	GAC	ACA	GGG	GTG	GCT	CGG	GTG	CCT	GGG	CTC	GGC	CGG	CGC	GGT	AAG	AGG	CTG	180
41	Val	Ala	Val	Asp	Thr	Gly	Val	Ala	Arg	Val	Pro	Gly	Leu	Gly	Arg	Arg	Gly	Lys	Arg	Leu	60
181	CTC	CTG	GCC	GCT	GTG	GCT	GTC	TTG	GCG	CTT	GTT	GTG	TCC	GTT	GTT	GTC	CCG	GCT	TAT	GTG	240
61	Leu	Leu	Ala	Ala	Val	Ala	Val	Leu	Ala	Leu	Val	Val	Ser	Val	Val	Val	Pro	Ala	Tyr	Val	80
241	GCG	TAT	AGT	AGT	CTG	CAC	CCG	GAG	AGC	TGT	CGG	CCC	GTT	GCG	CCG	GAG	GGG	CTC	ACC	TAC	300
81	Ala	Tyr	Ser	Ser	Leu	His	Pro	Glu	Ser	Cys	Arg	Pro	Val	Ala	Pro	Glu	Gly	Leu	Thr	Tyr	100
301	AAA	GAG	TTC	AGC	GTG	ACC	GCG	GAG	GAT	GGC	TTG	GTG	GTT	CGG	GGC	TGG	GTG	CTG	GGC	CCC	360
101	Lys	Glu	Phe	Ser	Val	Thr	Ala	Glu	Asp	Gly	Leu	Val	Val	Arg	Gly	Trp	Val	Leu	Gly	Pro	120
361	GGC	GCT	GGG	GGC	AAC	CCG	GTG	TTC	GTT	TTG	ATG	CAC	GGG	TAT	ACT	GGG	TGC	CGC	TCG	GCG	420
121	Gly	Ala	Gly	Gly	Asn	Pro	Val	Phe	Val	Leu	Met	His	Gly	Tyr	Thr	Gly	Cys	Arg	Ser	Ala	140
421	CCC	TAC	ATG	GCT	GTG	CTG	GCC	CGG	GAG	CTC	GTG	GAG	TGG	GGG	TAC	CCG	GTG	GTT	GTG	TTC	480
141	Pro	Tyr	Met	Ala	Val	Leu	Ala	Arg	Glu	Leu	Val	Glu	Trp	Gly	Tyr	Pro	Val	Val	Val	Phe	160
481	GAC	TTC	CGG	GGC	CAC	GGG	GAG	AGC	GGG	GGC	TCG	ACG	ACG	ATT	GGG	CCC	CGG	GAG	GTG	CTG	540
161	Asp	Phe	Arg	Gly	His	Gly	Glu	Ser	Gly	Gly	Ser	Thr	Thr	Ile	Gly	Pro	Arg	Glu	Val	Leu	180
541	GAT	GCC	CGG	GCT	GTG	GTG	GGC	TAT	GTC	TCG	GAG	CGG	TTC	CCC	GGC	CGC	CGG	ATA	ATA	TTG	600
181	Asp	Ala	Arg	Ala	Val	Val	Gly	Tyr	Val	Ser	Glu	Arg	Phe	Pro	Gly	Arg	Arg	Ile	Ile	Leu	200
601	GTG	GGG	TTC	AGT	ATG	GGC	GGC	GCT	GTA	GCG	ATC	GTG	GAG	GGT	GCT	GGG	GAC	CCG	CGG	GTC	660
201	Val	Gly	Phe	Ser	Met	Gly	Gly	Ala	Val	Ala	Ile	Val	Glu	Gly	Ala	Gly	Asp	Pro	Arg	Val	220
661	TAC	GCG	GTG	GCT	GCT	GAT	AGC	CCG	TAC	TAT	AGG	CTC	CGG	GAC	GTC	ATA	CCC	CGG	TGG	CTG	720
221	Tyr	Ala	Val	Ala	Ala	Asp	Ser	Pro	Tyr	Tyr	Arg	Leu	Arg	Asp	Val	Ile	Pro	Arg	Trp	Leu	240
721	GAG	TAC	AAG	ACG	CCG	CTG	CCG	GGC	TGG	GTG	GGT	GTG	CTG	GCC	GGG	TTC	TAC	GGG	AGG	CTG	780
241	Glu	Tyr	Lys	Thr	Pro	Leu	Pro	Gly	Trp	Val	Gly	Val	Leu	Ala	Gly	Phe	Tyr	Gly	Arg	Leu	260
781	ATG	GCG	GGC	GTT	GAC	CTC	GGC	TTC	GGC	CCC	GCT	GGG	GTG	GAG	CGC	GTG	GAT	AAG	CCG	TTG	840
261	Met	Ala	Gly	Val	Asp	Leu	Gly	Phe	Gly	Pro	Ala	Gly	Val	Glu	Arg	Val	Asp	Lys	Pro	Leu	280
841	CTG	GTG	GTG	TAT	GGG	CCC	CGG	GAC	CCG	CTG	GTG	ACG	CGG	GAC	GAG	GCG	AGG	AGC	CTG	GCG	900
281	Leu	Val	Val	Tyr	Gly	Pro	Arg	Asp	Pro	Leu	Val	Thr	Arg	Asp	Glu	Ala	Arg	Ser	Leu	Ala	300

901	TCC	CGT	AGC	CCG	TGT	GGC	CGT	CTC	GTC	GAG	GTT	CCT	GGG	GCT	GGC	CAC	GTG	GAG	GCC	GTG	960
301	Ser	Arg	Ser	Pro	Cys	Gly	Arg	Leu	Val	Glu	Val	Pro	Gly	Ala	Gly	His	Val	Glu	Ala	Val	320
961	GAT	GTG	CTC	GGG	CCG	GGC	CGC	TAC	GCA	GAC	ATG	CTG	ATA	GAG	CTG	GCG	CAC	GAG	GAG	TGC	1020
321	Asp	Val	Leu	Gly	Pro	Gly	Arg	Tyr	Ala	Asp	Met	Leu	Ile	Glu	Leu	Ala	His	Glu	Glu	Cys	340
1021	CCT	CCG	GGG	GCC	GGT	GGC	TGA														1041
341	Pro	Pro	Gly	Ala	Gly	Gly	End														347

total = 1021

FIGURE 3

Archaeoglobus Venificus SN P6-24LC

1	ATG	CCA	TAT	GTT	AGG	AAT	GGT	GGT	GTA	AAT	ATC	TAT	TAT	GAA	CTG	GTG	GAT	GGA	CCT	GAG	60
1	Met	Pro	Tyr	Val	Arg	Asn	Gly	Gly	Val	Asn	Ile	Tyr	Tyr	Glu	Leu	Val	Asp	Gly	Pro	Glu	20
61	CCA	CCA	ATT	GTC	TTT	GTT	CAC	GGA	TGG	ACA	GCA	AAT	ATG	AAT	TTT	TGG	AAA	GAG	CAA	AGA	120
21	Pro	Pro	Ile	Val	Phe	Val	His	Gly	Trp	Thr	Ala	Asn	Met	Asn	Phe	Trp	Lys	Glu	Gln	Arg	40
121	CGT	TAT	TTT	GCA	GGC	AGG	AAT	ATG	ATG	TTG	TTT	GTC	GAT	AAC	AGA	GGT	CAT	GGC	AGG	TCC	180
41	Arg	Tyr	Phe	Ala	Gly	Arg	Asn	Met	Met	Leu	Phe	Val	Asp	Asn	Arg	Gly	His	Gly	Arg	Ser	60
181	GAT	AAG	CCA	CTT	GGA	TAC	GAT	TTC	TAC	AGA	TTT	GAG	AAC	TTC	ATT	TCA	GAT	TTA	GAT	GCG	240
61	Asp	Lys	Pro	Leu	Gly	Tyr	Asp	Phe	Tyr	Arg	Phe	Glu	Asn	Phe	Ile	Ser	Asp	Leu	Asp	Ala	80
241	GTT	GTT	AGG	GAG	ACT	GGA	GTG	GAG	AAA	TTT	GTT	CTC	GTC	GGA	CAT	TCA	TTC	GGA	ACA	ATG	300
81	Val	Val	Arg	Glu	Thr	Gly	Val	Glu	Lys	Phe	Val	Leu	Val	Gly	His	Ser	Phe	Gly	Thr	Met	100
301	ATC	TCT	ATG	AAG	TAC	TGT	TCG	GAG	TAT	CGG	AAT	CGG	GTT	CTT	GCT	CTA	ATC	CTC	ATA	GGT	360
101	Ile	Ser	Met	Lys	Tyr	Cys	Ser	Glu	Tyr	Arg	Asn	Arg	Val	Leu	Ala	Leu	Ile	Leu	Ile	Gly	120
361	GGT	GGG	AGC	AGA	ATA	AAG	CTT	CTA	CAC	AGA	ATT	GGA	TAT	CCT	TTA	GCA	AAG	ATT	CTT	GCA	420
121	Gly	Gly	Ser	Arg	Ile	Lys	Leu	Leu	His	Arg	Ile	Gly	Tyr	Pro	Leu	Ala	Lys	Ile	Leu	Ala	140
421	TCC	ATT	GCA	TAC	AAG	AAG	TCT	TCA	AGA	TTG	GTC	GCA	GAT	CTT	TCC	TTT	GGC	AAA	AAT	GCT	480
141	Ser	Ile	Ala	Tyr	Lys	Lys	Ser	Ser	Arg	Leu	Val	Ala	Asp	Leu	Ser	Phe	Gly	Lys	Asn	Ala	160
481	GGT	GAA	CTT	AAA	GAG	TGG	GGA	TGG	AAA	CAG	GCA	ATG	GAT	TAT	ACA	CCC	TCC	TAC	GTG	GCA	540
161	Gly	Glu	Leu	Lys	Glu	Trp	Gly	Trp	Lys	Gln	Ala	Met	Asp	Tyr	Thr	Pro	Ser	Tyr	Val	Ala	180
541	ATG	TAC	ACG	TAC	AGA	ACT	CTA	ACG	AAA	GTG	AAT	CTT	GAA	AAT	ATC	TTG	GAG	AAA	ATA	GAC	600
181	Met	Tyr	Thr	Tyr	Arg	Thr	Leu	Thr	Lys	Val	Asn	Leu	Glu	Asn	Ile	Leu	Glu	Lys	Ile	Asp	200
601	TGT	CCA	ACA	CTG	ATT	ATC	GTT	GGA	GAA	GAG	GAT	GCA	CTA	TTG	CCC	GTT	AGC	AAA	TCA	GTT	660
201	Cys	Pro	Thr	Leu	Ile	Ile	Val	Gly	Glu	Glu	Asp	Ala	Leu	Leu	Pro	Val	Ser	Lys	Ser	Val	220
661	GAG	CTG	AGC	AGG	AGG	ATA	GAA	AAC	TCA	AAG	CTT	GTG	ATC	ATC	CCA	AAC	TCG	GGG	CAT	TGC	720
221	Glu	Leu	Ser	Arg	Arg	Ile	Glu	Asn	Ser	Lys	Leu	Val	Ile	Ile	Pro	Asn	Ser	Gly	His	Cys	240
721	GTA	ATG	CTT	GAG	AGT	CCA	AGT	GAG	GTT	AAT	AGA	GCA	ATG	GAC	GAA	TTC	ATT	TCT	TCA	GCA	780
241	Val	Met	Leu	Glu	Ser	Pro	Ser	Glu	Val	Asn	Arg	Ala	Met	Asp	Glu	Phe	Ile	Ser	Ser	Ala	260
781	CAG	TTC	TAA																		789
261	Gln	Phe	End																		263

FIGURE 4

Aquifex pyrophilus - 28LC

1	TTG	AGA	TTG	AGG	AAA	TTT	GAA	GAG	ATA	AAC	CTC	GTT	CTT	TCG	GGA	GGA	GCT	GCA	AAG	GGC	60
1	Leu	Arg	Leu	Arg	Lys	Phe	Glu	Glu	Ile	Asn	Leu	Val	Leu	Ser	Gly	Gly	Ala	Ala	Lys	Gly	20
61	ATA	GCC	CAC	ATA	GGT	GTT	TTG	AAA	GCT	ATA	AAC	GAG	CTC	GGT	ATA	AGG	GTG	AGG	GCT	TTA	120
21	Ile	Ala	His	Ile	Gly	Val	Leu	Lys	Ala	Ile	Asn	Glu	Leu	Gly	Ile	Arg	Val	Arg	Ala	Leu	40
121	AGC	GGG	GTG	AGC	GCC	GGG	GCA	ATC	GTT	TCG	GTC	TTT	TAT	GCC	TCA	GGC	TAC	TCC	CCT	GAA	180
41	Ser	Gly	Val	Ser	Ala	Gly	Ala	Ile	Val	Ser	Val	Phe	Tyr	Ala	Ser	Gly	Tyr	Ser	Pro	Glu	60
181	GGG	ATG	TTC	AGC	CTT	CTG	AAG	AGG	GTA	AAC	TGG	CTG	AAG	CTG	TTT	AAG	TTC	AAG	CCA	CCT	240
61	Gly	Met	Phe	Ser	Leu	Leu	Lys	Arg	Val	Asn	Trp	Leu	Lys	Leu	Phe	Lys	Phe	Lys	Pro	Pro	80
241	CTG	AAG	GGA	TTG	ATA	GGG	TGG	GAG	AAG	GCT	ATA	AGA	TTC	CTT	GAG	GAA	GTT	CTC	CCT	TAC	300
81	Leu	Lys	Gly	Leu	Ile	Gly	Trp	Glu	Lys	Ala	Ile	Arg	Phe	Leu	Glu	Glu	Val	Leu	Pro	Tyr	100
301	AGG	AGA	ATA	GAA	AAA	CTT	GAG	ATA	CCG	ACG	TAT	ATA	TGC	GCG	ACG	GAT	TTA	TAC	TCG	GGA	360
101	Arg	Arg	Ile	Glu	Lys	Leu	Glu	Ile	Pro	Thr	Tyr	Ile	Cys	Ala	Thr	Asp	Leu	Tyr	Ser	Gly	120
361	AGG	GCT	CTA	TAC	CTC	TCG	GAA	GGG	AGT	TTA	ATC	CCC	GCA	CTT	CTC	GGC	AGC	TGT	GCA	ATT	420
121	Arg	Ala	Leu	Tyr	Leu	Ser	Glu	Gly	Ser	Leu	Ile	Pro	Ala	Leu	Leu	Gly	Ser	Cys	Ala	Ile	140
421	CCC	GGC	ATA	TTT	GAA	CCC	GTT	GAG	TAT	AAG	AAT	TAC	TTG	CTC	GTT	GAC	GGA	GGT	ATA	GTT	480
141	Pro	Gly	Ile	Phe	Glu	Pro	Val	Glu	Tyr	Lys	Asn	Tyr	Leu	Leu	Val	Asp	Gly	Gly	Ile	Val	160
481	AAC	AAC	CTT	CCC	GTT	GAG	CCC	TTT	CAG	GAA	AGC	GGT	ATT	CCC	ACC	GTT	TGC	GTT	GAT	GTC	540
161	Asn	Asn	Leu	Pro	Val	Glu	Pro	Phe	Gln	Glu	Ser	Gly	Ile	Pro	Thr	Val	Cys	Val	Asp	Val	180
541	CTT	CCC	ATA	GAG	CCG	GAA	AAG	GAT	ATA	AAG	AAC	ATT	CTT	CAC	ATC	CTT	TTG	AGG	AGC	TTC	600
181	Leu	Pro	Ile	Glu	Pro	Glu	Lys	Asp	Ile	Lys	Asn	Ile	Leu	His	Ile	Leu	Leu	Arg	Ser	Phe	200
601	TTT	CTT	GCG	GTC	CGC	TCA	AAC	TCC	GAA	AAG	AGA	AAG	GAG	TTT	TGT	GAC	CTC	GTT	ATA	GTT	660
201	Phe	Leu	Ala	Val	Arg	Ser	Asn	Ser	Glu	Lys	Arg	Lys	Glu	Phe	Cys	Asp	Leu	Val	Ile	Val	220
661	CCT	GAG	CTT	GAG	GAG	TTC	ACA	CCC	CTT	GAT	GTT	AGA	AAA	GCG	GAC	CAA	ATA	ATG	GAG	AGG	720
221	Pro	Glu	Leu	Glu	Glu	Phe	Thr	Pro	Leu	Asp	Val	Arg	Lys	Ala	Asp	Gln	Ile	Met	Glu	Arg	240
721	GGA	TAC	ATA	AAG	GCC	TTA	GAG	GTA	CTT	TCT	GAA	TAG									756
241	Gly	Tyr	Ile	Lys	Ala	Leu	Glu	Val	Leu	Ser	Glu	End									252

FIGURE 5

M11TL-29L.

1	ATG	TTT	AAT	ATC	AAT	GTC	TTT	GTT	AAT	ATA	TCT	TGG	CTG	TAT	TTT	TCA	GGG	ATA	GTT	ATG	60
1	Met	Phe	Asn	Ile	Asn	Val	Phe	Val	Asn	Ile	Ser	Trp	Leu	Tyr	Phe	Ser	Gly	Ile	Val	Met	20
61	AAG	ACT	GTG	GAA	GAG	TAT	GCG	CTA	CTT	GAA	ACA	GGC	GTA	AGA	GTG	TTT	TAT	CGG	TGT	GTA	120
21	Lys	Thr	Val	Glu	Glu	Tyr	Ala	Leu	Leu	Glu	Thr	Gly	Val	Arg	Val	Phe	Tyr	Arg	Cys	Val	40
121	ATC	CCG	GAG	AAA	GCT	TTT	AAC	ACT	TTG	ATA	ATA	GGT	TCA	CAC	GGA	TTG	GGG	GCG	CAC	AGT	180
41	Ile	Pro	Glu	Lys	Ala	Phe	Asn	Thr	Leu	Ile	Ile	Gly	Ser	His	Gly	Leu	Gly	Ala	His	Ser	60
181	GGA	ATC	TAC	ATT	AGT	GTT	GCT	GAA	GAA	TTT	GCT	AGG	CAC	GGA	TTT	GGA	TTC	TGC	ATG	CAC	240
61	Gly	Ile	Tyr	Ile	Ser	Val	Ala	Glu	Glu	Phe	Ala	Arg	His	Gly	Phe	Gly	Phe	Cys	Met	His	80
241	GAT	CAA	AGG	GGA	CAT	GGG	AGA	ACG	GCA	AGC	GAT	AGA	GAA	AGA	GGG	TAT	GTG	GAG	GGC	TTT	300
81	Asp	Gln	Arg	Gly	His	Gly	Arg	Thr	Ala	Ser	Asp	Arg	Glu	Arg	Gly	Tyr	Val	Glu	Gly	Phe	100
301	CAC	AAC	TTC	ATA	GAG	GAT	ATG	AAG	GCC	TTC	TCC	GAT	TAT	GCC	AAG	TGG	CGC	GTG	GGA	GGT	360
101	His	Asn	Phe	Ile	Glu	Asp	Met	Lys	Ala	Phe	Ser	Asp	Tyr	Ala	Lys	Trp	Arg	Val	Gly	Gly	120
361	GAC	GAA	ATA	ATA	TTG	CTA	GGA	CAC	AGT	ATG	GGC	GGG	CTG	ATA	GCG	CTC	TTA	ACA	GTT	GCA	420
121	Asp	Glu	Ile	Ile	Leu	Leu	Gly	His	Ser	Met	Gly	Gly	Leu	Ile	Ala	Leu	Leu	Thr	Val	Ala	140
421	ACT	TAT	AAA	GAA	ATC	GCC	AAG	GGA	GTT	ATC	GCG	CTA	GCC	CCG	GCC	CTC	CAA	ATC	CCC	TTA	480
141	Thr	Tyr	Lys	Glu	Ile	Ala	Lys	Gly	Val	Ile	Ala	Leu	Ala	Pro	Ala	Leu	Gln	Ile	Pro	Leu	160
481	ACC	CCG	GCT	AGA	AGA	CTT	GTT	CTA	AGC	CTC	GCG	TCA	AGG	CTT	GCC	CCG	CAT	TCT	AAG	ATC	540
161	Thr	Pro	Ala	Arg	Arg	Leu	Val	Leu	Ser	Leu	Ala	Ser	Arg	Leu	Ala	Pro	His	Ser	Lys	Ile	180
541	ACC	TTA	CAA	AGG	AGA	TTG	CCG	CAG	AAA	CCA	GAG	GGT	TTT	CAA	AGA	GCA	AAA	GAT	ATA	GAA	600
181	Thr	Leu	Gln	Arg	Arg	Leu	Pro	Gln	Lys	Pro	Glu	Gly	Phe	Gln	Arg	Ala	Lys	Asp	Ile	Glu	200
601	TAC	AGT	CTG	AGT	GAA	ATA	TCA	GTC	AAG	CTC	GTG	GAC	GAA	ATG	ATT	AAA	GCA	TCA	TCT	ATG	660
201	Tyr	Ser	Leu	Ser	Glu	Ile	Ser	Val	Lys	Leu	Val	Asp	Glu	Met	Ile	Lys	Ala	Ser	Ser	Met	220
661	TTC	TGG	ACC	ATA	GCA	GGG	GAA	ATT	AAT	ACT	CCC	GTC	CTG	CTT	ATT	CAT	GGG	GAA	AAA	GAC	720
221	Phe	Trp	Thr	Ile	Ala	Gly	Glu	Ile	Asn	Thr	Pro	Val	Leu	Leu	Ile	His	Gly	Glu	Lys	Asp	240
721	AAT	GTC	ATA	CCT	CCG	GAG	GCG	AGC	AAA	AAA	GCC	TAC	CAA	TTA	ATA	CCT	TCA	TTC	CCT	AAA	780
241	Asn	Val	Ile	Pro	Pro	Glu	Ala	Ser	Lys	Lys	Ala	Tyr	Gln	Leu	Ile	Pro	Ser	Phe	Pro	Lys	260
781	GAG	TTG	AAA	ATA	TAC	CCC	GAT	CTT	GGA	CAC	AAC	TTG	TTT	TTT	GAA	CCA	GGC	GCG	GTG	AAA	840
261	Glu	Leu	Lys	Ile	Tyr	Pro	Asp	Leu	Gly	His	Asn	Leu	Phe	Phe	Glu	Pro	Gly	Ala	Val	Lys	280
841	ATC	GTC	ACA	GAC	ATT	GTA	GAG	TGG	GTT	AAG	AAT	CTA	CCC	AGG	GAA	AAT	CCT	TAA			894

281 Ile Val Thr Asp Ile Val Glu Trp Val Lys Asn Leu Pro Arg Glu Asn Pro End 298

total = 503200

FIGURE 6

Thermococcus CL-2-30LC

1	ATG	GAG	GTT	TAC	AAG	GCC	AAA	TTC	GGC	GAA	GCA	AAG	CTC	GGC	TGG	GTC	GTT	CTG	GTT	CAT	60
1	Met	Glu	Val	Tyr	Lys	Ala	Lys	Phe	Gly	Glu	Ala	Lys	Leu	Gly	Trp	Val	Val	Leu	Val	His	20
61	GGC	CTC	GGC	GAG	CAC	AGC	GGA	AGG	TAT	GGA	AGA	CTG	ATT	AAG	GAA	CTC	AAC	TAT	GCC	GGC	120
21	Gly	Leu	Gly	Glu	His	Ser	Gly	Arg	Tyr	Gly	Arg	Leu	Ile	Lys	Glu	Leu	Asn	Tyr	Ala	Gly	40
121	TTT	GGA	GTT	TAC	ACC	TTC	GAC	TGG	CCC	GGC	CAC	GGG	AAG	AGC	CCG	GGC	AAG	AGA	GGG	CAC	180
41	Phe	Gly	Val	Tyr	Thr	Phe	Asp	Trp	Pro	Gly	His	Gly	Lys	Ser	Pro	Gly	Lys	Arg	Gly	His	60
181	ACG	AGC	GTC	GAG	GAG	GCG	ATG	GAA	ATC	ATC	GAC	TCG	ATA	ATC	GAG	GAG	ATC	AGG	GAG	AAG	240
61	Thr	Ser	Val	Glu	Glu	Ala	Met	Glu	Ile	Ile	Asp	Ser	Ile	Ile	Glu	Glu	Ile	Arg	Glu	Lys	80
241	CCC	TTC	CTC	TTC	GGC	CAC	AGC	CTC	GGT	GGT	CTA	ACT	GTC	ATC	AGG	TAC	GCT	GAG	ACG	CGG	300
81	Pro	Phe	Leu	Phe	Gly	His	Ser	Leu	Gly	Gly	Leu	Thr	Val	Ile	Arg	Tyr	Ala	Glu	Thr	Arg	100
301	CCC	GAT	AAA	ATA	CGG	GGA	TTA	ATA	GCT	TCC	TCG	CCT	GCC	CTC	GCC	AAG	AGC	CCG	GAA	ACG	360
101	Pro	Asp	Lys	Ile	Arg	Gly	Leu	Ile	Ala	Ser	Ser	Pro	Ala	Leu	Ala	Lys	Ser	Pro	Glu	Thr	120
361	CCG	GGC	TTC	ATG	GTG	GCC	CTC	GCG	AAG	TTC	CTT	GGA	AAG	ATC	GCC	CCG	GGA	GTT	GTT	CTC	420
121	Pro	Gly	Phe	Met	Val	Ala	Leu	Ala	Lys	Phe	Leu	Gly	Lys	Ile	Ala	Pro	Gly	Val	Val	Leu	140
421	TCC	AAC	GGC	ATA	AAG	CCG	GAA	CTC	CTC	TCG	AGG	AAC	AGG	GAC	GCC	GTG	AGG	AGG	TAC	GTT	480
141	Ser	Asn	Gly	Ile	Lys	Pro	Glu	Leu	Leu	Ser	Arg	Asn	Arg	Asp	Ala	Val	Arg	Arg	Tyr	Val	160
481	GAA	GAC	CCA	CTC	GTC	CAC	GAC	AGG	ATT	TCG	GCC	AAG	CTG	GGA	AGG	AGC	ATC	TTC	GTG	AAC	540
161	Glu	Asp	Pro	Leu	Val	His	Asp	Arg	Ile	Ser	Ala	Lys	Leu	Gly	Arg	Ser	Ile	Phe	Val	Asn	180
541	ATG	GAG	CTG	GCC	CAC	AGG	GAG	GCG	GAC	AAG	ATA	AAA	GTC	CCG	ATC	CTC	CTT	CTG	ATC	GGC	600
181	Met	Glu	Leu	Ala	His	Arg	Glu	Ala	Asp	Lys	Ile	Lys	Val	Pro	Ile	Leu	Leu	Leu	Ile	Gly	200
601	ACT	GGC	GAT	GTA	ATA	ACC	CCG	CCT	GAA	GGC	TCA	CGC	AGA	CTC	TTC	GAG	GAG	CTG	GCC	GTC	660
201	Thr	Gly	Asp	Val	Ile	Thr	Pro	Pro	Glu	Gly	Ser	Arg	Arg	Leu	Phe	Glu	Glu	Leu	Ala	Val	220
661	GAG	AAC	AAA	ACC	CTG	AGG	GAG	TTC	GAG	GGG	GCG	TAC	CAC	GAG	ATA	TTT	GAA	GAC	CCC	GAG	720
221	Glu	Asn	Lys	Thr	Leu	Arg	Glu	Phe	Glu	Gly	Ala	Tyr	His	Glu	Ile	Phe	Glu	Asp	Pro	Glu	240
721	TGG	GCC	GAG	GAG	TTC	CAC	GAA	ACA	ATT	GTT	AAG	TGG	CTG	GTT	GAA	AAA	TCG	TAC	TCT	TCG	780
241	Trp	Ala	Glu	Glu	Phe	His	Glu	Thr	Ile	Val	Lys	Trp	Leu	Val	Glu	Lys	Ser	Tyr	Ser	Ser	260
781	GCT	CAA	TAA																		789
261	Ala	Gln	End																		263

FIGURE 7

Aquifex VF5-34LC

1	TTG	ATT	GGC	AAT	TTG	AAA	TTG	AAG	AGG	TTT	GAA	GAG	GTT	AAC	TTA	GTT	CTT	TCG	GGA	GGG	60
1	Leu	Ile	Gly	Asn	Leu	Lys	Leu	Lys	Arg	Phe	Glu	Glu	Val	Asn	Leu	Val	Leu	Ser	Gly	Gly	20
61	GCT	GCC	AAG	GGT	ATC	GCC	CAT	ATA	GGT	GTT	TTA	AAA	GCT	CTG	GAA	GAG	CTC	GGT	ATA	AAG	120
21	Ala	Ala	Lys	Gly	Ile	Ala	His	Ile	Gly	Val	Leu	Lys	Ala	Leu	Glu	Glu	Leu	Gly	Ile	Lys	40
121	GTA	AAG	AGG	CTC	AGC	GGG	GTA	AGT	GCT	GGA	GCT	ATC	GTT	TCC	GTC	TTT	TAC	GCT	TCG	GGC	180
41	Val	Lys	Arg	Leu	Ser	Gly	Val	Ser	Ala	Gly	Ala	Ile	Val	Ser	Val	Phe	Tyr	Ala	Ser	Gly	60
181	TAC	ACT	CCC	GAC	GAG	ATG	TTA	AAA	CTC	CTG	AAA	GAG	GTA	AAC	TGG	CTC	AAA	CTT	TTT	AAG	240
61	Tyr	Thr	Pro	Asp	Glu	Met	Leu	Lys	Leu	Leu	Lys	Glu	Val	Asn	Trp	Leu	Lys	Leu	Phe	Lys	80
241	TTC	AAA	ACA	CCG	AAA	ATG	GGC	TTA	ATG	GGG	TGG	GAG	AAG	GCT	GCA	GAG	TTT	TTG	GAA	AAA	300
81	Phe	Lys	Thr	Pro	Lys	Met	Gly	Leu	Met	Gly	Trp	Glu	Lys	Ala	Ala	Glu	Phe	Leu	Glu	Lys	100
301	GAG	CTC	GGA	GTT	AAG	AGG	CTG	GAA	GAC	CTG	AAC	ATA	CCA	ACC	TAT	CTT	TGC	TCG	GCG	GAT	360
101	Glu	Leu	Gly	Val	Lys	Arg	Leu	Glu	Asp	Leu	Asn	Ile	Pro	Thr	Tyr	Leu	Cys	Ser	Ala	Asp	120
361	CTG	TAC	ACG	GGA	AAG	GCT	CTT	TAC	TTC	GGC	AGA	GGT	GAC	TTA	ATT	CCC	GTG	CTT	CTC	GGA	420
121	Leu	Tyr	Thr	Gly	Lys	Ala	Leu	Tyr	Phe	Gly	Arg	Gly	Asp	Leu	Ile	Pro	Val	Leu	Leu	Gly	140
421	AGT	TGT	TCC	ATA	CCC	GGG	ATT	TTT	GAA	CCA	GTT	GAG	TAC	GAG	AAT	TTT	CTA	CTT	GTT	GAC	480
141	Ser	Cys	Ser	Ile	Pro	Gly	Ile	Phe	Glu	Pro	Val	Glu	Tyr	Glu	Asn	Phe	Leu	Leu	Val	Asp	160
481	GGA	GGT	ATA	GTG	AAC	AAC	CTG	CCC	GTA	GAA	CCT	TTG	GAA	AAG	TTC	AAA	GAA	CCC	ATA	ATC	540
161	Gly	Gly	Ile	Val	Asn	Asn	Leu	Pro	Val	Glu	Pro	Leu	Glu	Lys	Phe	Lys	Glu	Pro	Ile	Ile	180
541	GGG	GTA	GAT	GTG	CTT	CCC	ATA	ACT	CAA	GAA	AGA	AAG	ATT	AAA	AAT	ATA	CTC	CAC	ATC	CTT	600
181	Gly	Val	Asp	Val	Leu	Pro	Ile	Thr	Gln	Glu	Arg	Lys	Ile	Lys	Asn	Ile	Leu	His	Ile	Leu	200
601	ATA	AGG	AGC	TTC	TTT	CTG	GCG	GTT	CGT	TCC	AAT	TCG	GAA	AAG	AGA	AAG	GAG	TTC	TGC	AAC	660
201	Ile	Arg	Ser	Phe	Phe	Leu	Ala	Val	Arg	Ser	Asn	Ser	Glu	Lys	Arg	Lys	Glu	Phe	Cys	Asn	220
661	GTA	GTT	ATA	GAA	CCT	CCC	CTT	GAA	GAG	TTC	TCT	CCT	CTG	GAC	GTA	AAT	AAG	GCG	GAC	GAG	720
221	Val	Val	Ile	Glu	Pro	Pro	Leu	Glu	Glu	Phe	Ser	Pro	Leu	Asp	Val	Asn	Lys	Ala	Asp	Glu	240
721	ATA	TTC	TGC	GGG	GAT	ATG	AGA	GCA	CTT	TAA											750
241	Ile	Phe	Cys	Gly	Asp	Met	Arg	Ala	Leu	End											250

FIGURE 8

Teredinibacter - 42L

1	ATG	CCA	GCT	AAT	GAC	TCA	CCC	ACG	ATC	GAC	TTT	AAT	CCT	CGC	GGC	ATT	CTT	CGC	AAC	GCT	60
1	Met	Pro	Ala	Asn	Asp	Ser	Pro	Thr	Ile	Asp	Phe	Asn	Pro	Arg	Gly	Ile	Leu	Arg	Asn	Ala	20
61	CAC	GCA	CAG	GTT	ATT	TTA	GCG	ACT	TCC	GGC	TTG	CGC	AAA	GCG	TTT	TTG	AAA	CGC	ACG	CAC	120
21	His	Ala	Gln	Val	Ile	Leu	Ala	Thr	Ser	Gly	Leu	Arg	Lys	Ala	Phe	Leu	Lys	Arg	Thr	His	40
121	AAG	AGC	TAC	CTC	AGC	ACT	GCC	CAA	TGG	CTG	GAG	CTC	GAT	GCC	GGC	AAC	GGA	GTT	ACC	TTG	180
41	Lys	Ser	Tyr	Leu	Ser	Thr	Ala	Gln	Trp	Leu	Glu	Leu	Asp	Ala	Gly	Asn	Gly	Val	Thr	Leu	60
181	GCC	GGA	GAG	CTT	AAC	ACA	GCG	CCT	GCA	ACT	GCA	TCC	TCC	TCC	CAC	CCG	GCG	CAC	AAG	AAC	240
61	Ala	Gly	Glu	Leu	Asn	Thr	Ala	Pro	Ala	Thr	Ala	Ser	Ser	Ser	His	Pro	Ala	His	Lys	Asn	80
241	ACT	CTG	GTT	ATT	GTG	CTG	CAC	GGC	TGG	GAA	GGC	TCC	AGC	CAG	TCG	GCC	TAT	GCG	ACC	TCC	300
81	Thr	Leu	Val	Ile	Val	Leu	His	Gly	Trp	Glu	Gly	Ser	Ser	Gln	Ser	Ala	Tyr	Ala	Thr	Ser	100
301	GCT	GGC	AGC	ACG	CTT	TTC	GAC	AAT	GGG	TTC	GAC	ACT	TTT	CGC	CTT	AAT	TTT	CGC	GAT	CAC	360
101	Ala	Gly	Ser	Thr	Leu	Phe	Asp	Asn	Gly	Phe	Asp	Thr	Phe	Arg	Leu	Asn	Phe	Arg	Asp	His	120
361	GGC	GAC	ACC	TAC	CAC	TTA	AAC	CGC	GGC	ATA	TTT	AAC	TCA	TCG	CTG	ATT	GAC	GAA	GTA	GTG	420
121	Gly	Asp	Thr	Tyr	His	Leu	Asn	Arg	Gly	Ile	Phe	Asn	Ser	Ser	Leu	Ile	Asp	Glu	Val	Val	140
421	GGC	GCA	GTC	AAA	GCC	ATC	CAG	CAG	CAA	ACC	GAC	TAC	GAC	AAG	TAT	TGC	CTG	ATG	GGG	TTC	480
141	Gly	Ala	Val	Lys	Ala	Ile	Gln	Gln	Gln	Thr	Asp	Tyr	Asp	Lys	Tyr	Cys	Leu	Met	Gly	Phe	160
481	TCA	CTG	GGT	GGG	AAC	TTT	GCC	TTG	CGC	GTC	GCG	GTG	CGG	GAA	CAG	CAT	CTC	GCT	AAA	CCG	540
161	Ser	Leu	Gly	Gly	Asn	Phe	Ala	Leu	Arg	Val	Ala	Val	Arg	Glu	Gln	His	Leu	Ala	Lys	Pro	180
541	CTA	GCG	GGC	GTG	CTC	GCC	GTA	TGC	CCG	GTA	CTC	GAC	CCC	GCA	CAC	ACC	ATG	ATG	GCC	CTA	600
181	Leu	Ala	Gly	Val	Leu	Ala	Val	Cys	Pro	Val	Leu	Asp	Pro	Ala	His	Thr	Met	Met	Ala	Leu	200
601	AAC	CGA	GGT	GCG	TTT	TTC	TAC	GGC	CGC	TAT	TTT	GCG	CAT	AAA	TGG	AAG	CGC	TCG	TTA	ACC	660
201	Asn	Arg	Gly	Ala	Phe	Phe	Tyr	Gly	Arg	Tyr	Phe	Ala	His	Lys	Trp	Lys	Arg	Ser	Leu	Thr	220
661	GCA	AAA	CTT	GCA	GCT	TTC	CCA	GAC	TAC	AAA	TAC	GGC	AAA	GAT	TTA	AAA	TCG	ATA	CAC	ACG	720
221	Ala	Lys	Leu	Ala	Ala	Phe	Pro	Asp	Tyr	Lys	Tyr	Gly	Lys	Asp	Leu	Lys	Ser	Ile	His	Thr	240
721	CTT	GAT	GAG	TTA	AAC	AAC	TAT	TTC	ATT	CCC	CGC	TAC	ACC	GGC	TTC	AAC	TCA	GTC	TCC	GAA	780
241	Leu	Asp	Glu	Leu	Asn	Asn	Tyr	Phe	Ile	Pro	Arg	Tyr	Thr	Gly	Phe	Asn	Ser	Val	Ser	Glu	260
781	TAC	TTC	AAA	AGT	TAC	ACG	CTC	ACC	GGG	CAG	AAG	CTC	GCG	TTT	CTC	AAC	TGC	CCC	AGT	TAC	840
261	Tyr	Phe	Lys	Ser	Tyr	Thr	Leu	Thr	Gly	Gln	Lys	Leu	Ala	Phe	Leu	Asn	Cys	Pro	Ser	Tyr	280
841	ATT	CTG	GCA	GCT	GGC	GAC	GAC	CCA	ATA	ATT	CCA	GCA	TCC	GAC	TTT	CAG	AAA	ATA	GCC	AAG	900
281	Ile	Leu	Ala	Ala	Gly	Asp	Asp	Pro	Ile	Ile	Pro	Ala	Ser	Asp	Phe	Gln	Lys	Ile	Ala	Lys	300

901	CCT	GCG	AAT	CTG	CAC	ATA	ACA	GTA	ACG	CAA	CAA	GGT	TCT	CAT	TGC	GCA	TAC	CTG	GAA	AAC	960
301	Pro	Ala	Asn	Leu	His	Ile	Thr	Val	Thr	Gln	Gln	Gly	Ser	His	Cys	Ala	Tyr	Leu	Glu	Asn	320

961	CTG	CAT	AAA	CCT	AGT	GCT	GCC	GAC	AAA	TAT	GCG	GTG	AAA	TTA	TTT	GGA	GCC	TGT	TGA	1017
321	Leu	His	Lys	Pro	Ser	Ala	Ala	Asp	Lys	Tyr	Ala	Val	Lys	Leu	Phe	Gly	Ala	Cys	End	339

10037303 = 123404

FIGURE 9

Archeoglobus fulgidus VC16 - 16MC1

ATG CTT GAT ATG CCA ATC GAC CCT GTT TAC TAC CAG CTT GCT GAG TAT
 Met Leu Asp Met Pro Ile Asp Pro Val Tyr Tyr Gln Leu Ala Glu Tyr
 1 5 10 15
 TTC GAC AGT CTG CCG AAG TTC GAC CAG TTT TCC TCG GCC AGA GAG TAC
 Phe Asp Ser Leu Pro Lys Phe Asp Gln Phe Ser Ser Ala Arg Glu Tyr
 20 25 30
 AGG GAG GCG ATA AAT CGA ATA TAC GAG GAG AGA AAC CGG CAG CTG AGC
 Arg Glu Ala Ile Asn Arg Ile Tyr Glu Glu Arg Asn Arg Gln Leu Ser
 35 40 45
 CAG CAT GAG AGG GTT GAA AGA GTT GAG GAC AGG ACG ATT AAG GGG AGG
 Gln His Glu Arg Val Glu Arg Val Glu Asp Arg Thr Ile Lys Gly Arg
 50 55 60
 AAC GGA GAC ATC AGA GTC AGA GTT TAC CAG CAG AAG CCC GAT TCC CCG
 Asn Gly Asp Ile Arg Val Arg Val Tyr Gln Gln Lys Pro Asp Ser Pro
 65 70 75 80
 GGT CTG GTT TAC TAT CAC GGT GGT GGA TTT GTG ATT TGC AGC ATC GAG
 Val Leu Val Tyr Tyr His Gly Gly Gly Phe Val Ile Cys Ser Ile Glu
 85 90 95
 TCG CAC GAC GCC TTA TGC AGG AGA AYY GCG AGA CTT TCA AAC TCT ACC
 Ser His Asp Ala Leu Cys Arg Arg Ile Ala Arg Leu Ser Asn Ser Thr
 100 105 110
 GTA GTC TCC GTG GAT TAC AGG CTC GCT CCT GAG CAC AAG TTT CCC CCC
 Val Val Ser Val Asp Tyr Arg Leu Ala Pro Glu His Lys Phe Pro Ala
 115 120 125
 CCA GTT TAT CAT TGC TAC GAT GCG ACC AAG TGG GTT GCT GAG AAC CGG
 Ala Val Tyr Asp Cys Tyr Aso Ala Thr Lys Trp Val Ala Glu Asn Ala
 130 135 140
 GAG GAG CTG AGG ATT GAC CCG TCA AAA ATC TTC GTT GGG GGG GAC AGT
 Glu Glu Leu Arg Ile Asp Pro Ser Lys Ile Phe Val Gly Gly Asp Ser
 145 150 155 160
 GCG GGA CGG AAT CTT GCC CCG GCG CTT TCA ATA ATG GCG AGA GAC AGC
 Ala Gly Gly Asn Leu Ala Ala Val Ser Ile Met Ala Arg Asp Ser
 165 170 175
 GGA GAA GAT TTC ATA AAG CAT CAA ATT CTA ACT TAC CCC GTT GTG AAC
 Gly Glu Asp Phe Ile Lys His Gln Ile Leu Ile Tyr Pro Val Val Asn
 180 185 190
 TTT GTA GCC CCC ACA CCA TCG CTT CTG GAG TTT GGA GAG GGG CTG TGG
 Phe Val Ala Pro Thr Pro Ser Leu Leu Glu Phe Gly Glu Gly Leu Trp
 195 200 205
 ATT CTC GAC CAG AAG ATA ATG AGT TGG TTC TCG GAG CAG TAC TTC TCC
 Ile Leu Asp Gln Lys Ile Met Ser Trp Phe Ser Glu Gln Tyr Phe Ser
 210 215 230

AGA	GAG	GAA	GAT	AAG	TTC	AAG	CCC	CTC	GCC	TCC	GTA	ATC	TTT	GCG	GAC
Arg	Glu	Glu	Asp	Lys	Phe	Asn	Pro	Leu	Ala	Ser	Val	Ile	Phe	Ala	Asp
235					240					245					250
CTT	GAG	AAC	CTA	CCT	CCT	GCG	CTG	ATC	ATA	ACC	GCC	GAA	TAC	GAC	CCG
Leu	Glu	Asn	Leu	Pro	Pro	Ala	Leu	Ile	Ile	Thr	Ala	Glu	Tyr	Asp	Pro
				255					260					265	
CTG	AGA	GAT	GAA	GGA	GAA	GTT	TTC	GGG	CAG	ATG	CTG	AGA	AGA	GCC	GGT
Leu	Arg	Asp	Glu	Gly	Glu	Val	Phe	Gly	Gln	Met	Leu	Arg	Arg	Ala	Gly
			270					275						280	
GTT	GAG	GCG	AGC	ATC	GTC	AGA	TAC	AGA	GGC	GTG	CTT	CAC	GGA	TTC	ATC
Val	Glu	Ala	Ser	Ile	Val	Arg	Tyr	Arg	Gly	Val	Leu	His	Gly	Phe	Ile
		285					290					295			
AAT	TAC	TAT	CCC	GTG	CTG	AAG	GCT	GCG	AGG	GAT	GCG	ATA	AAC	CAG	ATT
Asn	Tyr	Tyr	Pro	Val	Leu	Lys	Ala	Ala	Arg	Asp	Ala	Ile	Asn	Gln	Ile
300						305					310				
GCC	GCT	CTT	CTT	GTG	TTC	GAC	TAG								
Ala	Ala	Leu	Leu	Val	Phe	Asp									
315					320										

FIGURE 10

Sulfolobus Solfataricus P1 - 8LC1

ATG	CCC	CTA	GAT	CCT	AGA	ATT	AAA	AAG	TTA	CTA	GAA	TCA	GCT	CTT	ACT
Met	Pro	Leu	Asp	Pro	Arg	Ile	Lys	Lys	Leu	Leu	Glu	Ser	Ala	Leu	Thr
1				5					10					15	
ATA	CCA	ATT	GGT	AAA	GCC	CCA	GTA	GAA	GAG	GTA	AGA	AAG	ATA	TTT	AGG
Ile	Pro	Ile	Gly	Lys	Ala	Pro	Val	Glu	Glu	Val	Arg	Lys	Ile	Phe	Arg
			20					25					30		
CAA	TTA	GCG	TCG	GCA	GCT	CCC	AAA	GTC	GAA	GTT	GGA	AAA	GTA	GAA	GAT
Gln	Leu	Ala	Ser	Ala	Ala	Pro	Lys	Val	Glu	Val	Gly	Lys	Val	Glu	Asp
		35					40				45				
ATA	AAA	ATA	CCA	GGC	AGT	GAA	ACC	GTT	ATA	AAC	GCT	AGA	GTG	TAT	TTT
Ile	Lys	Ile	Pro	Gly	Ser	Glu	Thr	Val	Ile	Asn	Ala	Arg	Val	Tyr	Phe
	50					55				60					
CCG	AAG	AGT	AGC	GGT	CCT	TAT	GGT	GTT	CTA	GTG	TAT	CTT	CAT	GGA	GGC
Pro	Lys	Ser	Ser	Gly	Pro	Tyr	Gly	Val	Leu	Val	Tyr	Leu	His	Gly	Gly
65					70				75					80	
GGT	TTT	GTA	ATA	GGC	GAT	GTG	GAA	TCT	TAT	GAC	CCA	TTA	TGT	AGA	GCA
Gly	Phe	Val	Ile	Gly	Asp	Val	Glu	Ser	Tyr	Asp	Pro	Leu	Cys	Arg	Ala
				85				90						95	
ATT	ACA	AAT	GCG	TGC	AAT	TGC	GTT	GTA	GTA	TCA	GTG	GAC	TAT	AGG	TTA
Ile	Thr	Asn	Ala	Cys	Asn	Cys	Val	Val	Val	Ser	Val	Asp	Tyr	Arg	Leu
			100				105						110		
GCT	CCA	GAA	TAC	AAG	TTT	CCT	TCT	GCA	GTT	ATC	GAT	TCA	TTT	GAC	GCT
Ala	Pro	Glu	Tyr	Lys	Phe	Pro	Ser	Ala	Val	Ile	Asp	Ser	Phe	Asp	Ala
		115				120					125				
ACT	AAT	TGG	GTT	TAT	AAC	AAT	TTA	GAT	AAA	TTT	GAT	GGA	AAG	ATG	GGA
Thr	Asn	Trp	Val	Tyr	Asn	Asn	Leu	Asp	Lys	Phe	Asp	Gly	Lys	Met	Gly
	130					135				140					
GTT	GCG	ATT	GCG	GGA	GAT	AGT	GCT	GGA	GGA	AAT	TTG	GCA	GCG	GTT	GTA
Val	Ala	Ile	Ala	Gly	Asp	Ser	Ala	Gly	Gly	Asn	Leu	Ala	Ala	Val	Val
145				150				155						160	
GCT	CTT	CTT	TCA	AAG	GGT	AAA	ATT	AAT	TTG	AAG	TAT	CAA	ATA	CTG	GTT
Ala	Leu	Leu	Ser	Lys	Gly	Lys	Ile	Asn	Leu	Lys	Tyr	Gln	Ile	Leu	Val
				165				170						175	
TAC	CCA	GCG	GTA	AGT	TTA	GAT	AAC	GTT	TCA	AGA	TCC	ATG	ATA	GAG	TAC
Tyr	Pro	Ala	Val	Ser	Leu	Asp	Asn	Val	Ser	Arg	Ser	Met	Ile	Glu	Tyr
			180				185					190			
TCT	GAT	GGG	TTC	TTC	CTT	ACC	AGA	GAG	CAT	ATA	GAG	TGG	TTC	GGT	TCT
Ser	Asp	Gly	Phe	Phe	Leu	Thr	Arg	Glu	His	Ile	Glu	Trp	Phe	Gly	Ser
	195					200					205				
CAA	TAC	TTA	CGA	AGC	CCT	GCA	GAT	TTG	CTA	GAC	TTT	AGG	TTC	TCT	CCA
Gln	Tyr	Leu	Arg	Ser	Pro	Ala	Asp	Leu	Leu	Asp	Phe	Arg	Phe	Ser	Pro
	210					215					220				

